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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,239	03/22/2004	Takahiro Ikano	119196	9037
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EXAMINER				
STOREY, WILLIAM C				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/805,239

**Applicant(s)**

IKENO ET AL.

**Examiner**

WILLIAM C. STOREY

**Art Unit**

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 April 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6, 8-21, 23-30, 32 and 33 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 8-21, 23-30, 32 and 33 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 1, 3, 15, 24, 30 (and dependents and claims with similarly-contentious limitations) is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains material which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the invention was filed. A patent must describe the technology that is sought to be patented; the requirement serves both to satisfy the inventor's obligation to disclose the technologic knowledge upon which the patent is based, and to demonstrate that the patentee was in possession of the invention that is claimed to put the public in possession of what the applicant claims as the invention. Further, the written description requirement promotes the progress of the useful arts by ensuring that patentees adequately describe their inventions in their patent specifications in exchange for the right to exclude others from practicing the invention for the duration of the patent's term. Please provide proper support for the amendments in the proper embodiment, including basing the selection of the on-off control pattern on a single combination of multiple on-off states of said start signal and multiple on-off states of clock pulse signal at a single rising or a single falling.

3. Claim 29, 33 (and dependents and claims with similarly-contentious limitations) is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains material which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the invention was filed. A patent must describe the technology that is sought to be patented; the requirement serves both to satisfy the inventor's obligation to disclose the technologic knowledge upon which the patent is based, and to demonstrate that the patentee was in possession of the invention that is claimed to put the public in possession of what the applicant claims as the invention. Further, the written description requirement promotes the progress of the useful arts by ensuring that patentees adequately describe their inventions in their patent specifications in exchange for the right to exclude others from practicing the invention for the duration of the patent's term. Please provide proper written description support for multiple on-off states of the clock pulse signal (or second signal) and multiple on-off states of the start signal (or first signal) may be changed at a single predetermined moment. The on-off states exist through a previous time span. Please show a single moment in time affecting the claimed change to the previous time-spanned states.

4. Claim 29, 33 (and dependents and claims with similarly-contentious limitations) is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains material which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that

the inventor(s) had possession of the claimed invention at the time the invention was filed. A patent must describe the technology that is sought to be patented; the requirement serves both to satisfy the inventor's obligation to disclose the technological knowledge upon which the patent is based, and to demonstrate that the patentee was in possession of the invention that is claimed to put the public in possession of what the applicant claims as the invention. Further, the written description requirement promotes the progress of the useful arts by ensuring that patentees adequately describe their inventions in their patent specifications in exchange for the right to exclude others from practicing the invention for the duration of the patent's term. Please provide proper written description support for a moment of detection of the multiple on-off states of the first and the multiple on-off states of the second resolution setting signals (or clock and start signals) (claim 33 refers to the multiples by "the" indicating the antecedent reference to the prior definition as such). The on-off states exist through a previous time span. Please show a single moment in time for the detection of the time the previous time-spanned multiple states for both signals.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 29, 33, 10 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim claims "changing the on-off states of said start signal and the on-off states of said clock pulse signal at a predetermined moment." It is

unclear how previously-defined multiple states of the start signal and previously-defined multiple states of the clock pulse signal may be changed at a predetermined moment. (Other claims may utilize slightly differ wording but have a similar problem (for example, first and second resolution setting signals instead of start and clock pulse signal).)

7. Claim 3, 15 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is claimed that the resolution setting timing signal is one of said control signal and said clock pulse signal. However, claim 1 now claims that the clock pulse signal is the second resolution signal, which pertains to the third input terminal, and thus, may not be the resolution setting timing signal pertaining to the first input terminal.

8. Claim 3, 15, 24 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how only a single rising or falling may be referred to with antecedent basis, at least because of the fact that that a parent claim (claim 1, for instance) claims at least one of the rising and falling and it a 112 1<sup>st</sup> issue has been discussed for claim 1 wherein there is not support for a single rising or falling in that case. Thus, a single rising or falling could be referred to at least clearly, as it may not be clear as to which of a plurality (if the case) of risings or fallings or which of a rising or falling may be being referred to.

9. Claim 26 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to exactly which or what the moment of falling of the resolution setting timing signal is referring to; there may be more than one moment of falling, for example.

10. Claim 29, 33, 10 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims claim a moment of detection of the multiple on-off states of the first and the multiple on-off states of the second resolution setting signals (it is assumed claim 33 refers to the multiples by "the" indicating the antecedent reference to the prior definition as such). It is impossible for the multiple states as previously defined to be detected at a single moment.

11. Claim 33, 10, 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. "The on-off states of the first and second resolution setting signals" is referred to. However, it is unclear as to exactly which of the on-off states of the multiple on-off states of the first resolution setting signal and the multiple on-off states of the second resolution signal are being referred to. (claim 14 refers to start signal and clock signal in place of the first and second resolution setting signals.)

12. Claim 16 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is claimed that the resolution setting timing signal generating portion generates one of said control signal and said clock pulse signal as said resolution setting timing signal. However, claim 1 now claims that the clock pulse signal is the second resolution signal, which pertains to the third input terminal, and thus, may not be the resolution setting timing signal pertaining to the first input terminal, and which would have to be generated by the resolution setting timing signal, as discussed by claim 13.

13. Claim 16 (and dependents and claims with similarly-contentious limitations) rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is claimed that the control portion controls one of said first and second resolution-setting-signal generating portions to generate said start signal. However, claim 1 now claims that the clock pulse signal is the second resolution signal, which pertains to the third input terminal, and thus, may not be generated by the second resolution-setting-signal generating portion as respectively assigned by claim 13.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



2. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kozuka (JP 2000-101803).

Regarding claim 29, Kozuka discloses a plurality of photoelectric converter elements each of which converts an optical signal into an electric signal (abstract, light receiving elements, read a signal voltage, photoelectric conversion converts an optical signal into an electric signal); a signal generating portion that generates a start signal and a clock pulse signal (abstract, the start and clock signal are described as coming from externally. Inherently, there must be a signal generating portion in order for these signals to exist.); Although Kozuka may not have distinctly described a plurality of channel selector switches which correspond to said photoelectric converter elements and which are selectively turned on and off to selectively connect and disconnect output portions of the corresponding photoelectric converter elements to and from a common signal line, in synchronization with said clock pulse signal particular to his or her invention of focus, Kozuka specified the conventional setup for the shift-register image sensor. From fig. 7 and ¶4, Kozuka discloses how one-by-one channel select switches for photo cells are selectively turned on (and off (by nature of being one-by-one at least)) to output the signal to the signal line (common signal line). From the description and the drawing, the operation is disclosed in synchronization with a clock pulse signal. Additionally, Kozuka discloses at fig. 1, abstract, ¶21, ¶23, ¶24, ¶33 that an array of light receiving elements is accessed and output serially by time through use of a shift register synchronized to a

clock pulse signal. It would have been at least obvious to one of ordinary skill in the art considering the conventional knowledge to utilize a plurality of channel selector switches in the manner claimed order to provide greater control, quality, flexibility, and/or ease through following convention in that particular manner.);

a shift register circuit that selectively turns on and off said plurality of channel selector switches, said shift register circuit being started by said start signal (the shift register circuit was discussed in the previous disclosures and discussion. Fig. 1, ¶¶4, 13, 14, 21, disclose starting the shift register circuit by a start signal. ¶4 discloses how the conventional sensor device is started by a start pulse. Considering this and that the pulse signal is called "start," it would have been at least obvious to one of ordinary skill in the art at the time the invention was made to provide having the start pulse signal start the shift register in order to exert greater control, to provide greater sense through following functionality according to the title of the signal, and/or to gain greater ease through following the known convention.); and

a resolution setting portion that receives said start signal and said clock pulse signal (fig. 1, resolution control signal generating means, ¶13), and selects one of a plurality of on-off control patterns of said plurality of channel selector switches, based on a combination of on-off states of said start signal and on-off states of said clock pulse signal (fig. 1-5, ¶¶22, 23, 26, 30, 32, 33 disclose how a control signal is set based on the on-off states of said start signal and said clock signal and from that control setting of high or low resolution, the on-off patterns of the scanning lines of the light receiving array is altered. For example, two adjacent lines may be read as one set for low res. or

one-by-one may be read for high res. However, in particular, fig. 4-5 present an embodiment of the invention whereby the resolution setting may be determined based on a combination of on-off states of said start signal and on-off states of said clock pulse signal. ¶¶40, 42, 43, 46, 47 may provide more information. The number of clock pulses while the start pulse is in an on state determines the resolution. Thus, the resolution is based on a combination of on-off states of the clock signal (in order to count the number of clock pulses) and the on-off states of the start pulse (when the start pulse is in an on state, the clock pulses count, then when the start pulse is in an off state following the on state determines when the clock pulses no longer count and the resolution is set.) said plurality of channel selector switches being selectively turned on and off in the selected on-off control pattern, to set an image resolution value of the image sensor (from previous discussions and/or disclosures), said resolution setting portion including one of (a) a first portion for changing a moment of selection of one of the plurality of on-off control patterns of the plurality of channel selector switches based on the combination of on-off states of said start signal and the on-off states of said clock pulse signal, and (b) a second portion for changing the on-off states of the said start signal and the on-off states of said clock pulse signal at a predetermined moment of selection of one of the on-off control patterns of the plurality of channel selector switches (At least (a) is provided for in that, based on the set start pulse width (which affect the on-off state at a particular timing), the moment of the falling of the start pulse (at which the detection/selection may occur) changes. (fig. 5, ¶¶43, 47). It is discussed how the number clock pulses when the start pulse is high (up until the

point that it goes from high to low (on to off)) generates a resolution switch signal. Additionally, ¶47 discloses how at different times corresponding to the number of clock signals, different resolutions are set. Nonetheless, it would have been at least obvious to one of ordinary skill in the art to have the selection of the resolution (and thus, the selection of what pattern to use) occur when the start pulse falls from high to low since there would be no more clock pulses counted for the resolution. The resolution would be at least able to be determined at that point. Thus, when the start pulse fell, the resolution may be determined from the information as disclosed. Thus, changing the width and, consequently, falling of the start pulse may change a moment of selection. This would at least provide for greater speed versus if this was not the case.).

### ***Response to Arguments***

Regarding the discussion for claim 29 (and similarly-limited and dependent claims), the substance of the applicant's proposal regarding the claim(s) surrounds the idea that selecting one of a plurality of on-off control patterns of said plurality of channel selector switches, based on a combination of on-off states of said start signal and said clock pulse signal may not be provided for. However, it has been disclosed how the on-off state of the start pulse signal is important to set when the clock signal is no longer to be counted, which completes the determination of the resolution setting. Additionally, the clock on-off state when the start pulse is on affects the output selection. The timing of the start pulse falling is based on the start pulse going from an on-state to an off-state. This determines the number of clock pulses that are counted. Thus, the determination of resolution is based both on when the start pulse is on and also when it

is off (since this determines that the determination of resolution is finished since no more clock pulses are counted). At least this may provide for based on a combination on-off states of said start signal and said clock pulse signal.

3. Applicant's arguments with respect to prior art rejections of claims that no longer have an art rejection have been considered but are moot in view of the absence of a prior art rejection.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **WILLIAM C. STOREY** whose telephone number is

(571)270-3576. The examiner can normally be reached on Monday - Friday Eastern Standard Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on (571) 272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William C Storey/  
Examiner, Art Unit 2625

William C Storey  
Examiner  
Art Unit 2625

/W. C. S./  
Examiner, Art Unit 2625  
/King Y. Poon/  
Supervisory Patent Examiner, Art Unit 2625